

EE322 Fall 08 Homework Problem Set 4 (PS04) SOLUTIONS

1. Ch. 2, Problem 4.

```
% part a
r=5; area=pi*r^2

area =

    78.5398

% part b
r=10; surface_area=4*pi*r^2

surface_area =

    1.2566e+003

% part c
r=2; volume=4/3*pi*r^3
volume =

    33.5103
```

2. Ch. 2, Problem 5.

```
% part a
r=3; h=[1,5,12];
volume=pi * r^2 * h

volume =

    28.2743    141.3717    339.2920

% part b
b=[2,4,6]; h=12;
area=1/2 * b * h

area =

    12    24    36

% part c
v=10;
volume = area * v

volume =

    120    240    360
```

3. Ch. 2, Problem 11

```
G=6.673e-11;  
m1=6e24;  
m2=7.4e22;  
r=3.9e8;
```

```
F=G*m1*m2/r^2
```

```
F =
```

```
1.9479e+020 (in Newtons)
```

Important Note: MATLAB does not care about or keep track of units...it is up to you to ensure that the units you use in an equation are correct.